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ABSTRACT

Data for a study of the composition process consisted of student compositions written in response to four stimulus tasks (compositions written within unstructured, topical/Aristotelian, dramatic situation, and behavioral models), and students' introspective comments made in response to questionnaires, during taped discussions, and in individual interviews. These data were subjected to process analysis according to an adaptation of J.P. Guilford's Structure of Intellect Model for information processing, yielding four methods of ordering information: accretion, cross-section, juxtaposition, and counterpoise. Accretion, used with memory/evocation operations, organically develops a flow of ideas into a coherent unit. Cross-section and juxtaposition order cognition/clarification information by exposing composite units' components (cross-section) or by presenting two units so that the presented relationship clarifies both units. Counterpoise organizes evaluation/agreement operations either by adding sufficient information for criterion satisfaction or by replacing an unsatisfactory item with one that meets criterion requirements. (Author/RL)

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COMPOSING PROCESSES: ORDERING THE IDEAS

English Educators demonstrate a chronic lack of unanimity in defining their profession. They cross the Atlantic to discuss whether English is pedagogically defined as the repository of our cultural heritage or as a medium for personal growth. They fill the pages of professional journals with arguments about objectives, setting up a bifurcation between behavioral and humanistic goals. They have researched and counterresearched the question of teaching grammar. Some argue for literature programs which prescribe only the best works to the exclusion of subliterature; others insist that "subliterature" is more properly termed adolescent literature, desirable because it speaks to the student in his own terms. And on and on, like a presidential campaign.

Need for Grounded Theory

A presidential campaign is terminated by a majority vote. But the persisting concerns of English educators cannot be resolved so categorically. What is needed is a comprehensive theory which links the discrete and empirically validated elements of English programs by providing modes of conceptualization for describing and explaining particular areas. These theoretical formulations need to be grounded on data rather than on a priori assumptions.

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The discovery of grounded theory, theory based on data, is explained and defended by Barney G. Glaser and Anselm L. Strauss (1967):

> Previous books on methods of social research have focused on how to verify theories. This suggests an overemphasis in current sociology on the verification of theory, and a resultant de-emphasis on the prior steps of discovering what concepts and hypothese are relevant for the area that one wishes to research, (pp. 1-2).

The use of grounded theory, as opposed to speculative theory, has certain advantages:

1. The theory is generated to fit the data;
2. Examples from the data are used to illustrate not confirm the theory;
3. The forcing of data to fit the theory is avoided.

This type of study requires a tolerance for ambivalence and is directly opposed to the method which begins with logical assumptions expressed in hypotheses which the data then verifies or negates.

Many scholars have attempted to formulate such a theory. This paper reports another attempt to develop theory, a partial theory about the composing processes adopted by English teacher candidates in the initial stages of writing in response to teacher-initiated tasks within the context of the classroom. For the purposes of this study,"initial stages" is defined as the first twenty minutes of assigned writing time.

The data for the study consisted of compositions written in response to four stimulus tasks differing in amount of structure and in the type of response called for:

Stimulus One--unstructured model;
Stimulus Two--topical model described by Aristotle and modernized by Edward Corbett (1965);
Stimulus Three--dramatic situation model proposed by D. Gordon Rohman and Albert O. Wiecke (1964);
Stimulus Four--behavioral model described by Robert Zoellner (1969).

Characteristics of the Stimulus Tasks

The four stimulus tasks which the subjects were asked to respond to vary in pedagogical approach, discovery technique, interventive device, and in assumptions about the relationship between language, content, and interior activity. It is not the purpose of this study, however, to evaluate either the pedagogical approaches or their hypothesized bases. The emphasis of the study is analytic of the range of processes adopted, not predictive of the probabilities of their occurring. The purpose of the variation in tasks, therefore, was to generate a wide variety of responses consonant with the purpose of finding the range of processes that student-writers adopt. In every case, the subjects were given freedom to choose their own topics, genres, and mode of discourse. An additional feature common to all of the stimuli, except Stimulus One, is that each suggests a heuristic device for elaborating upon the chosen topic.

Stimulus One

Stimulus One directed the student to write about any subject he chose in any way that he chose. Its purpose was to determine what processes a student-writer uses when he is left to his own devices, devices previously learned or presently adopted.

Stimulus Two

Stimulus Two, based on the classical topical model adapted for the modern student by Edward Corbett (1965), asked the student to generate elaborating comments by answering questions related to the common topics which Aristotle found in the works of successful rhetors. These questions, dealing with definition, comparison, relationship, circumstance, and testimony, are assumed to be in the mind of the intended reader and to be particularly helpful for the pupose that the author has in mind. It is further assumed that the questioning process generates the content and that the interior activity called for is logical and extrovertive thinking. The writer was directed to develop a generalized statement abstract enough to encompass all the ideas he wished to include, to generate and organize his extended comments by asking himself a series of questions, and to assume that his task consisted of preanswering the questions in the mind of his intended reader. His attention was called to the fact that these questions lend themselves readily to the expository essay, but that any or all of these topics occur also in fiction, poetry, or drama.

Stimulus Three

Stimulus Three, based on the organic model proposed by D. Gordon Rohman and Albert O. Wiecke (1964), defined writing as a personally transformed experience of an event, emphasizing the word personally. Authentic writing demands that the writer use his own structure of events, his own version of experience, his own relationship with his subject, and his own way of ordering it. The writers were asked to conceive a "seed idea" having sufficient potency to beget other ideas as though organically. This seed idea could take the form either of a sustained analogy or of a dramatic situation. The analogy, to be effective, should not be as abstract as the experience to be communicated but should be relatively concrete, employing sensory images. The dramatic situation is experienced rather than conceptualized, revealing the physical and emotional components of the human activity to be communicated. The writer was given a paradigm of the search for an analogy to exemplify that approach and a list of steps considered useful, if he preferred to use the dramatic situation. He was given the choice of using either the analogy or the dramatic situation, both of which called for imaginative and introspective thinking.

Stimulus Four

Stimulus Four, based on the behavioral model described by Robert Zoellner (1969), defined writing as verbal behavior, related to but different from both thinking and vocal activity. It is assumed that the writer brings to the writing task a verbal repertory, both vocal and scribal, and a knowledge of rhetorical principles. He was asked to produce a vocal kernel through a vocal-to-scribal dialogue accompanied by immediate feedback. From this kernel was to ensue

a viable rhetorical development, achieved through multiple responses each of which more closely approximated what the writer really wanted to say. Good writing is assumed to be achieved, not in the manner of the archer hitting a bulls-eye, but in the manner of the golfer completing his course by successive strokes. The subjects of this study were asked to engage in such a vocal-to-scribal dialogue with one of them serving as writer and the other serving as scribal auditor. The dialogue was recorded on tape and the written approximations retained.

Table 1

Characteristics of Stimuli as Postulated by Advocates

	Stimulus 1	Stimulus 2	Stimulus 3	Stimulus 4
Model	indefinite	analytical	organic	behavioral
Approach	indefinite	think-write	think-write	talk-write
Device	indefinite	common topics	analogy or dramatic situation	vocal-kernel
Assumed Process	indefinite	generating	transforming	approximating
Assumption about Content	indefinite	concepts	assimilated experience	internalized responses
Assumption about Inner Activity	indefinite	logical	introspective	unknown
Educator		Corbett	Rohman-Wiecke	Zoellner

Underlying Assumptions

The underlying assumptions of this study are:

1. That the human organism in an information processor;
2. That information processing consists of operations on differing types of information;
3. That these operations may be hypothesized on the basis of external manifestations;
4. That the linguistic formulation of the writing task is an information system.

Treatment of Data

The compositions written in response to each of the four stimuli and the introspective comments made in response to the questionnaire, during the taped discussions, and at the time of the individual interviews have been subjected to process analysis. For purposes of this study, process analysis is defined as a research technique which examines the basic forms in which information is recorded, for the purpose of inferring the interior operations which the organism uses either anteriorly or concurrently with externalization.

Guilford (1967, p. 221) has defined information as that which the organism discriminates, the total fund of experience, impressions, images, ideas, conscious and unconscious. He posits that there are five cognitive operations which he defines in the following terms:

1. Cognition--awareness, immediate discovery or rediscovery, or recognition of information in various forms; comprehension or understanding;
2. Memory--retention or storage of information, with some degree of availability;
3. Convergent production--generation of information from given information, generating logical conclusions, logical necessities;
4. Divergent production--generation of information from given information, generating alternatives, logical possibilities;
5. Evaluation--comparing an item of information with known information according to logical criteria, reaching a decision concerning criterion satisfaction.

He further contends that these processes operate on different kinds of information: figural, symbolic, semantic, and behavioral. These kinds of information appear in different forms: units, systems, classes, relations, implications, and transformations. This study adopts Guilford's terminology and distinctions, extending and adapting them to the scribal act where the data indicates their appropriateness.

No attempt is made in this study to differentiate between conscious and unconscious processes. Neither is there any attempt to validate its findings in quantitative terms. Since measures of centrality are not crucial in comparative analysis, frequency tables will not be used.

> Since accurate evidence is not so crucial for generating theory, the kind of evidence, as well as the number of cases, is also not so crucial. A single case can indicate a general conceptual category or property; a few more cases can confirm the indication, (Glaser, p. 30).

Treatment of the Compositions

Each piece of writing done by the subjects of this study is treated as a unit of data. In attempting to classify these units, I found the Structure of Intellect Model presented by J. P. Guilford to be particularly useful. The matrix which he presents consists of five operations, four kinds of content, and six forms, yielding one hundred-twenty mental abilities. Without necessarily subscribing to the details of the model, I found several aspects of it helpful:

1. The idea that operations are meaningful only in relation to the kind of information being processed and to the form that the information takes;
2. The distinction made between behavioral and semantic information;

3. The distinction made between units, classes, systems, relationships, transformations, and implications.

Adapting this model to the present study, I define the stimulus task as a semantic system which requires the student-writer to perform the following operations: comprehend, fixate in memory, produce ways of fulfilling, and evaluate the production against the criteria set by his comprehension of the task. The composition itself is a production of a semantic representation of either behavioral or conceptual information. Behavioral information is defined by Guilford (1967):

> information, essentially nonverbal, involved in human interactions, where awareness of attention, perceptions, thoughts, desires, feelings, moods, emotions, intentions, and actions, of other persons and of ourselves is important, (p. 77).

Conceptual information, on the other hand, is in the form of meanings involving verbal thinking and verbal communication.

The semantic production may be a representation of remembered, comprehended, or evaluated information. It may seek to evoke from the reader, self or other, a sharing in memories, increased understanding or considered judgment. By a combination of central operation used by the writer, central operation anticipated from the reader, and the form of the information which is being processed, the compositions have been grouped according to methods of ordering. The hypothesized theory for each of the methods of ordering information is presented in the form of a schematized algorithm. These algorithms contain rectangular boxes to signal executive steps and triangular boxes to signal decision points, an affirmative decision being indicated by a plus sign and a negative by a minus sign.

While the processes charted in the flow charts are conceptually discrete, they are most probably continuous activities, as indicated but not substantiated by the findings of this study. Reitman (1965) has proposed that a distinguishing quality of human activity may be termed multiple processing by which he means that the human mind appears capable of managing several programs almost simultaneously. Neisser (1967), using the analogy of the computer, explains that while the executive process is directing a search through one semantic data bank, it may also be directing the search procedure of another semantic data bank. Thus the algorithms are to be interpreted as multiple rather than sequential programs.

Ordering the Information

The chosen method of ordering is directly related to the central interior activity of the writer which may be memory, cognition, or evaluation. A writer employs his memory of words and their meanings, of thoughts and events previously experienced or learned. Without such a memory bank to provide the basis for communication, the composition would be so idiosyncratic as to be comprehensible only to its originator, if at all. The search of a topic also involves memory. Similarly, cognition and evaluation are active throughout the scribal act. In Emerson's words:

> All are needed by each one,
> Nothing is fair or good alone.

However, the attempt to categorize the compositions written for this study resulted in an awareness that one or other of these processes dominates. Some of the writings are semantic representations of re-experienced information, involving memory as the central operation; some are semantic productions of comprehended information, involving cognition as central operation; others delineate the degree of conformity between information and predetermined criteria, involving evaluation as central operation.

Memory

Accretion

The compositions which record remembered experiences were developed by a method which may be termed accretion. This method, used in responding to Stimulus One and to Stimulus Three, is evident in those compositions where the ideas "just flowed" as though organically developing from a seed idea, as described both by I. A. Richards (1967) and by Gordon Rohman (1964). It is called accretion because it is a putting together of parts that are naturally separate but which together form a coherent unit.

One writer who used accretion narrated her visit to an older friend who lives an unhurried life in simple surroundings. She recalled the fog, the dusty road, the simple white frame dwelling, the wooden screen door. Within the house she recalled the brown easy chair, the artificial flower in a Kresge vase, the Bible. Contrasted to the writer's life, with its days crowded with more tasks than time and energy, her friend's life appeared inviting and previous. She recorded for the reader the snatches of conversation which interrupted her reflections and which gave the woman's perceptions of her own life as unattractive and boring. She ended: "We drove home in that heavy fog and I felt oppressed by it and by my life, which is supposedly so free."

A second writer recalled that "Late in the afternoon on an early spring day, I received a phone call from my fiance--she told me that Rusty, a good friend of mine, had jumped to his death from his tenth floor dorm room." He recalled the music of his new record album and the smell of the cleaning fluid he had been using to clean his room; his "mental picture of a mangled, bloody body resting at the end of a 100-foot drop; his compulsion to drive to the scene, knowing that there was nothing he could do; the "eternity" of that day and the feeling of emptiness which still accompanies his memory of the event.

A third writer related that "Some of my best memories of childhood--and my life in general--happened at Pine Lake, Wisconsin." She recalled the family tales of the purchase of the land after a forest fire, the arrival by barge of the lumber for the first cottage, and the planting of trees which now "look as if they stood there for hundreds of years." She "went in there a few months ago and it made me want to cry." She viewed the scene in memory, item by item: the dismal gloom; the accumulation of dead flies; the old furniture jammed together; the dusty files of every published issue of the Saturday Evening Post; the rows of beds, with yellowed newspapers covering the mattresses; the boxes of old metal and wooden toys under the eaves; and "the thing that really hit closest to my heart . . . Grandpa's hat casually hung on an old hat stand."

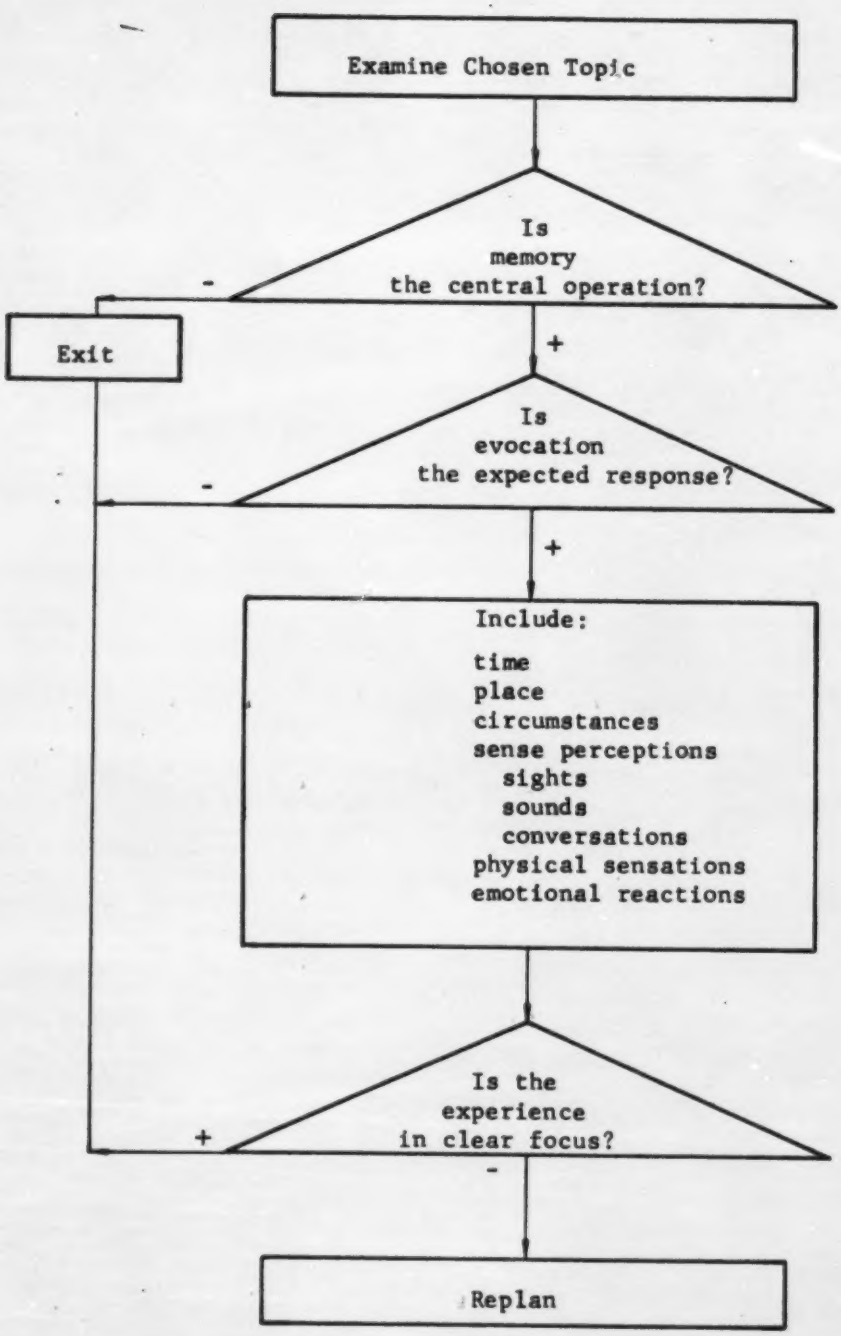
In all of these compositions, the method of ordering appears to be almost spontaneous with the writers making such comments as:

> I wrote just as I remembered the incident.
> The ideas just flowed.

This seeming spontaneity, however, is not a necessary element. One writer records that the process seemed hard to understand at first and very difficult. The distinguishing characteristic of the method termed accretion is the merging of disparate details into a unit of meaning. It differs from a method which occurs frequently in writing but which did not occur in this study, namely, chronicling. With accretion, the expected response of the reader is empathy; with chronicling, it is cognition of events. The process of ordering by accretion is presented in Figure 1.

Figure 1

Flow Chart of Accretion Ordering



Cognition

Cross-Sectioning

A process which is directly opposite to accretion was evident in this study. This method of ordering may be termed cross-sectioning because the scribal production is a representation of a composite unit, exposing the constituents or components in their relationship. It was used when the central activity of the writer was cognition and the expected response from the reader was understanding or clarification. This method of ordering occurred with each of the four tasks.

One writer started with the composite class of people called students, observing their differing behaviors in the library the night before an hourly exam. Using the genre of a poem, she devoted one stanze of irregular length to each of four kinds of students: the workers, the rationalizers, the rude and the pleasant. Within each stanza she listed the behaviors demonstrated by each kind.

Another writer chose the highly complex topic of life, using two angles of cross-sectioning in a dove-tailing relationship. From one angle, she represented life in three layers of fun, work, and death. From a second angle, she showed the components of fun in relationship to four age groups: to the very young with their playgrounds and carnivals; to the adolescent with his sockhops and hayrides; to the young adult with the socializing at bars and marriage; to the old, defined as those who have stopped having fun in life.

Another writer chose to present the various constitutents of playing a guitar. The tedious and time-consuming aspects are memorizing the chords, learning various picking techniques, developing skill in positioning the hands, and practicing each of these until it is executed perfectly. The satisfying aspect is the pleasure of playing, having

achieved one's goal. In presenting these aspects of skillful playing, the writer used a sustained metaphor.

Cross-sectioning is a method of ordering which exposes the components of a composite unit from one or more angles of vision. It involves cognition of all its pertinent parts and of the relationships between the parts. It is useful when the desired response from the reader is understanding or clarification. The process of ordering by cross-sectioning is presented in Figure 2.

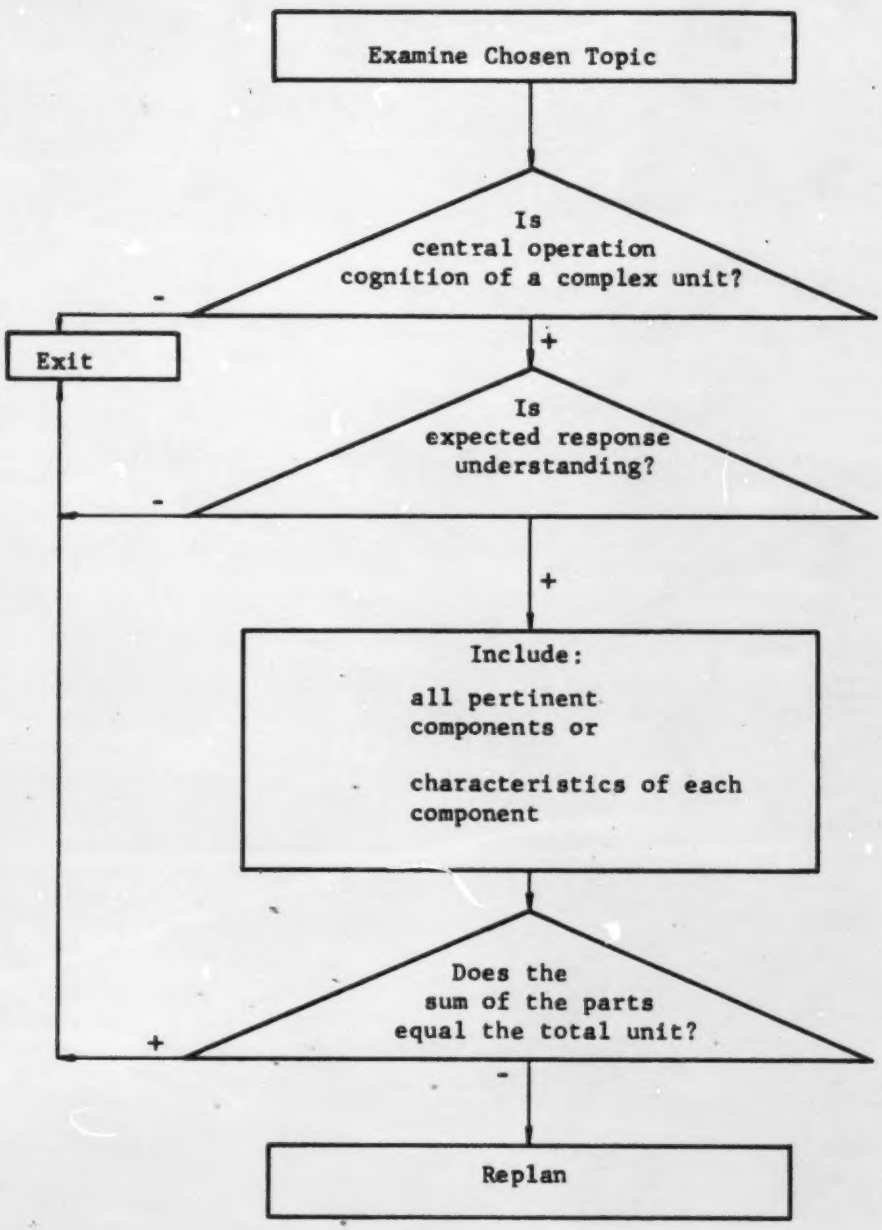
Juxtaposition

A second method of ordering when the central operation of the writer was cognition and the expected response was understanding or clarification also was used. This method may be compared to the use of the split screen used in televising football games. The information to be conveyed is a relationship between units and in this aspect differs from cross-sectioning which is concerned with explaining parts of a composite unit. The writer places two ideas or two experiences side-by-side, attempting to impart greater understanding or insight into both elements of the relationship. For this reason the method has been labeled juxtaposition. It differs from metaphor which has for its purpose to clarify one term by means of the other. This method of ordering occurred with each of the four tasks.

One writer chose to show the relationship of similarity between reading and acting, declaring both to be ways to "get out of yourself for at least a little while and escape your problems by involving yourself in someone else's". She cited involvement with the plot, identification with the hero, and role playing of the events as her response to reading. Next to this, she juxtaposed acting, declaring that it also "takes you out of your own world...as you're forced to become that person, if only on the surface . . . (and) is such a total experience."

Figure 2

Flow Chart of Ordering by Cross-sectioning



Another writer used juxtaposition to point up differences, citing her behavior and its causes when she felt strong jealousy and when she did not.

Finally, this method was used to clarify the degree of similarity and difference between music and the graphic arts. The writer noted that both kinds of art are abstract with music being more abstract. Each performance of music is a free and nonidentical copy while "art is captured in a painting, sculpture, etc.".

Juxtaposition is a method of ordering which clarifies the relationship of similarity, of contract, or of gradation between two or more forms of information. It requires cognition of each member of the relationship and of the relationship between them. The process of ordering by juxtaposition is presented in Figure 3.

Evaluation

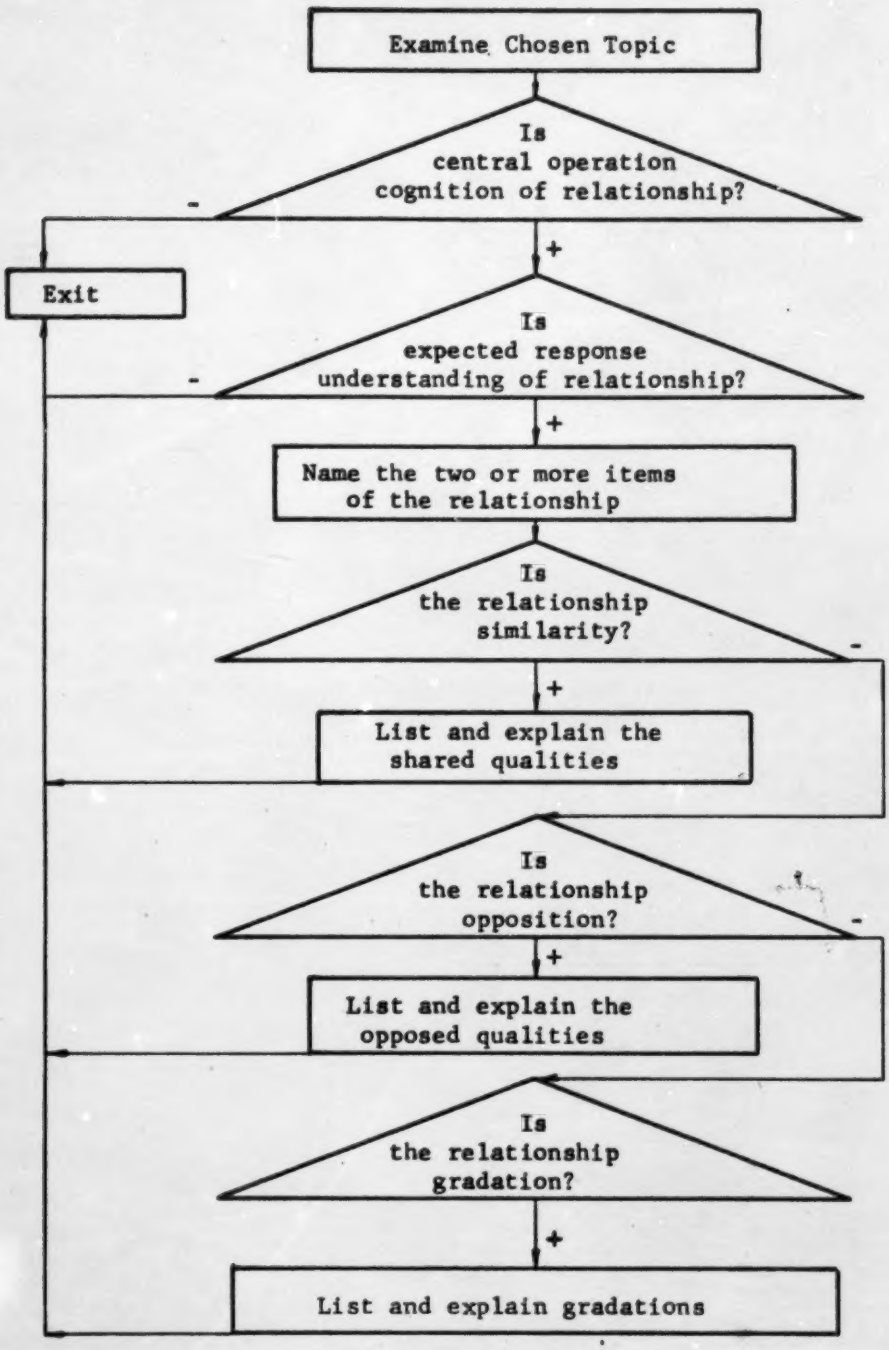
When the writer compares information with known information according to criteria, leading to a decision concerning criterion satisfaction, his central operation is evalution. Since evaluation, by definition, demands comparing, the response expected of the reader is a weighing of an informational unit against a criterion, for the purpose of agreement or alliance with the decision of the writer. This method of ordering which occurred with all four stimulus tasks, has been termed couterpoise which may be achieved in one of two ways. The writer may add facts together until they equal criterion demands or he may try one fact after another until the one which satisfies criterion demands is found.

Counterpoise by Addition

One writer used desirability as her criterion, comparing caring for a housecat with caring for a child in the early years of marriage. She added together a series of facts: the desire to watch something grow,

Figure 3

Flow Chart of Juxtaposition Ordering



the absence of a need for supervision or for a babysitter, the amusement provided. Her decision was "My husband and I have found that the housecat is the perfect answer."

A second writer chose to compare his situation of being the only male in a class with that of being one of a number of males. His criterion was desirability. Having examined that quality of its multiple aspects of good looks, intelligence, humor, charm, and divergent experiences and ideas, he decided that being the only male was a desirable situation.

A third writer used logical truth or correctness as her criterion, evaluating the logical counterpart of the biblical phrase: "a time and place for everything."

I wonder. . .
  Is there a time for everything--
  for anger,
  for hate,
  for despair?

And what about the place?
  Should hate or love occur
  within the bounds
    of heart
    or mind?

She continued her poem by elaborating these ideas deciding that

No, there's not a time,
    there's not a place
For everything.

Counterpoise by Substitution

The additive technique just illustrated may be compared to the act of an apothecary who keeps adding ingredients until a prescription is filled according to the criterion set by the doctor. The technique of substitution, on the other hand, involves replacement of the item that fails to meet criterion demands by another and another until criterion satisfaction is found. The second method may be compared to the act of

a housewife, looking for a roast of a particular size. She judges one too small, another too large, and a third, just right.

Using the substitution technique, one writer evaluated one after another the possible reasons for her lack of energy during her student-teaching semester: laziness, lack of incentive, the behavior of her cooperating teacher, lack of encouragement, wrong channeling of effort. One after the other, she rejected each explanation ending with no decision or rather with the decision that none of these items adequately account for her situation.

A second writer concerned herself with arranging a mythology unit, using feasibility as criterion. She explored ways or organizing her material with the purpose of having students gain a background for the understanding of literature. She then rejected that objective and replaced it with having the students "gain a maximum understanding and tolerance of other people's cultures, ideas, and ways of life."

The work of a third writer shows the possibility of combining both the replacement and the additive methods. It is as though the housewife is having a guest who does not eat pork, and another who does not eat beef. One roast of either kind will be inadequate; a combination of two roasts is needed. The writer chose possibility as her criterion. She weighed the possibility of women achieving liberation and decided against it. She weighed the possibility of men achieving liberation from stereotyped expectations and decided against it. For her, the possibility criterion is met only if men and women both experience liberation.

Counterpoise is a method of ordering comparable to placing items of information in one pan of a balance scale and a criterion in the other. If the indicator rests at zero position, criterion requirements have been met. If not, the writer proceeds in one of two ways: replacing one item with another or adding more items until the indicator is perpendicular. This method is useful when the desired response from the reader is agreement with the evaluation or alliance in the action

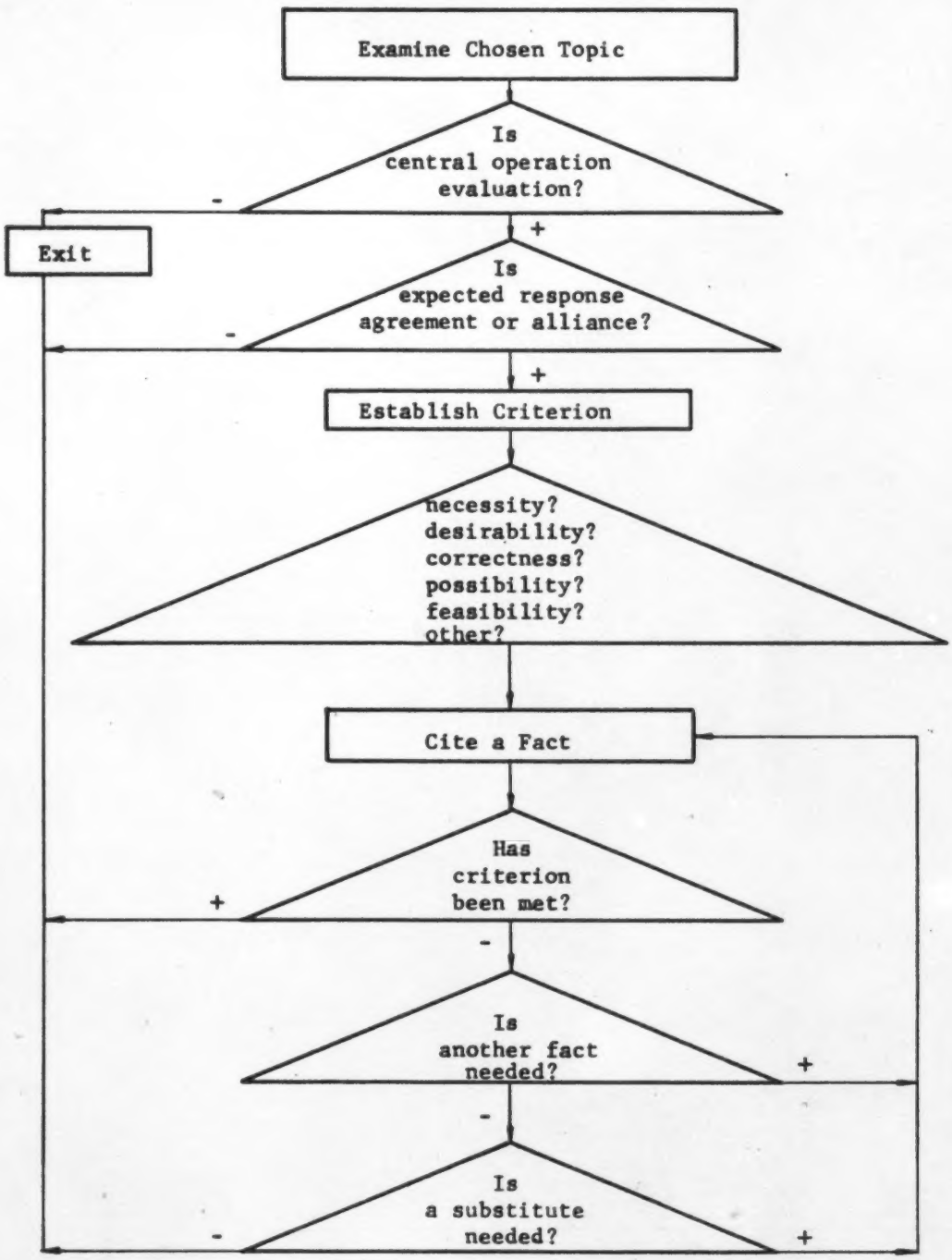
which the writer deems necessary, desirable, correct, possible, or feasible. The process of ordering by counterpoise is presented in Figure 4.

Four methods of ordering have been discussed. Accretion is used with the memory/evocation operations. Cognition/clarification is achieved by cross sectioning or juxtaposition. The former is used when the information is in the form of a composite unit to be clarified by exposing its components; the latter is used when two units are related in such a way that the relationship clarifies both units. Evaluation/agreement is ordered by counterpoise, achieved either by addition of information sufficient for criterion satisfaction or by replacing an unsatisfactory item with one that meets criterion requirements.

Methods of ordering the semantic representation of information have been identified on the basis of presentation design rather than in mentalistic terms. One can show a flower in its developmental stages from seed to plant as Rohman has suggested. In this case, the writer has used accretion, which, in this study, has been a function of memory and has had evocation for purpose. One can also slice through a tree trunk horizontally or through a building vertically to expose components. In this case, the writer is using cross sectioning, linked in this study to cognition and clarification. He may place red roses next to red carnations, black vinyl against white vinyl, lavender lace next to purple velvet to clarify by similarity, contrast, or degree of difference. This method has been termed juxtapositioning, again linked to cognition. One may place ideas on a balance scale to determine relative weight. In this study, such a process has been called counterpoise and can be achieve either by adding elements together to equal a preevaluated criterion or by substituting and discarding one element after another until the criterion has been met by one of them. This method has been linked to evaluation with the purpose of winning agreement or alliance.

Figure 4

Flow Chart of Ordering by Counterpoise



Further research is needed on a broader scale to determine if other methods of ordering occur; if pedagogical guidance in the use of these methods will improve the efficiency of their use; if teacher-candidates can profit from experiences with using and identifying these methods.

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